CLAIMS:

1. A redundant system having two switch routes, comprising:

N (N >= 1) input selectors, each of which selects one of the two switch routes to connect N input lines to the selected one depending on a system switching signal;

two switch sections provided for respective ones of the two switch routes, each of the switch sections having N input ports and N output ports and comprising N buffers, each of which comprises M (M >= 2) priority queues for storing input packets classified under M priorities;

M priority output queues corresponding to respective ones of the M priorities;

an output selector for selecting one of two priority queues for each of the M priorities corresponding to respective ones of the two switch sections to store an output of the selected one into a corresponding one of the M priority output queues; and

a controller for instructing the output selector to select one of the two priority queues for each of the M priorities corresponding to respective ones of the two switch sections depending on the system switching signal and a packet storing status of each of the M priority queues.

2. The redundant system according to claim 1, wherein when the one of the two switch routes is switched to the other by the system switching signal, the controller monitors a packet storing status of each of the M priority queues and, if the one of the two priority queues corresponding to respective ones of the two switch sections becomes empty, then the controller instructs the output selector to select the other of the two priority queues to store an output of the selected one into a corresponding one of the M priority output queues.

3. The redundant system according to claim 2, wherein each of the switch sections further comprises:

a readout controller controlling a packet reading sequence of the M priority queues for each of the N buffers such that priority in packet reading is given to a higher priority queue.

4. The redundant system according to claim 2, wherein the controller instructs the output selector to sequentially select the other of the two priority queues for each of the M priorities in descending order of priority.

5. A packet switching system having two switch routes, comprising:

N (N >= 1) input selectors, each of which selects one of the two switch routes to connect N input lines to the

selected one depending on a system switching signal;

two switch sections provided for respective ones of the two switch routes, each of the switch sections having N input ports and N output ports and comprising N buffers, each of which comprises:

a high-priority queue for storing input packets having a high priority; and

a low-priority queue for storing input packets having a low priority;

a high-priority output selector for selecting one of two high-priority queues corresponding to respective ones of the two switch sections;

a low-priority output selector for selecting one of two low-priority queues corresponding to respective ones of the two switch sections;

a high-priority output queue for storing an output of the selected one of the two high-priority queues;

a low-priority output queue for storing an output of the selected one of the two low-priority queues; and

a controller controlling the high-priority and low-priority output selectors depending on the system switching signal and a packet storing status of each of the high-priority and low-priority queues.

6. The packet switching system according to claim 5, wherein when the one of the two switch routes is switched to

the other by the system switching signal, the controller monitors a packet storing status of each of the high-priority and low-priority queues and, if the one of the two high-priority queues corresponding to respective ones of the two switch sections becomes empty, then the controller instructs the high-priority output selector to select the other of the two high-priority queues to store an output of the selected one into the high-priority output queue.

7. The packet switching system according to claim 6, wherein each of the switch sections further comprises:

a readout controller controlling a packet reading sequence of the high-priority and low-priority queues for each of the N buffers such that priority in packet reading is given to the high-priority queue.

8. The packet switching system according to claim 7, wherein the readout controller starts reading out low-priority packet stored in the low-priority queue after all high-priority packets stored in the high-priority queue have been completely read out.

9. The packet switching system according to claim 7, wherein the readout controller controls a packet reading sequence of the high-priority and low-priority queues for each of the N buffers such that m high-priority packets are read out

from the high-priority queue and n low-priority packets are read out from the low-priority queue, wherein m is set to be greater than n.

10. A packet switching method in a packet switch having two switch routes and comprising:

N (N >= 1) input selectors, each of which selects one of the two switch routes to connect N input lines to the selected one depending on a system switching signal;

two switch sections provided for respective ones of the two switch routes, each of the switch sections having N input ports and N output ports and comprising N buffers; and

M priority output queues corresponding to respective ones of the M priorities,

the method comprising the steps of:

a) distributing input packets into M (M >= 2) priority queues, which are classified under M priorities for each of the N buffers; and

b) selecting one of two priority queues for each of the M priorities corresponding to respective ones of the two switch sections to store an output of the selected one into a corresponding one of the M priority output queues, depending on the system switching signal and a packet storing status of each of the M priority queues.

11. The method according to claim 10, wherein the step

(b) comprises the steps of:

when the one of the two switch routes is switched to the other by the system switching signal, monitoring a packet storing status of each of the M priority queues; and

when the one of the two priority queues corresponding to respective ones of the two switch sections becomes empty, selecting the other of the two priority queues to store an output of the selected one into a corresponding one of the M priority output queues.

12. The method according to claim 10, further comprising the steps of:

at each of the switch sections,

reading input packets from the M priority queues for each of the N buffers such that priority in packet reading is given to a higher priority queue.

13. The method according to claim 10, wherein the step (b) comprises the step of sequentially selecting the other of the two priority queues for each of the M priorities in descending order of priority.

14. A method for controlling a packet switch having two switch routes and comprising:

N (N >= 1) input selectors, each of which selects one of the two switch routes to connect N input lines to the selected

one depending on a system switching signal;

two switch sections provided for respective ones of the two switch routes, each of the switch sections having N input ports and N output ports and comprising N buffers; and

M priority output queues corresponding to respective ones of the M priorities,

the method comprising the steps of:

a) distributing input packets into M (M >= 2) priority queues, which are classified under M priorities for each of the N buffers; and

b) sequentially switching between two priority queues for each of the M priorities corresponding to respective ones of the two switch sections to store an output of a selected one into a corresponding one of the M priority output queues, in descending order of priority.